

**METHOD AND APPARATUS FOR VOICED SPEECH EXCITATION FUNCTION
DETERMINATION AND NON-ACOUSTIC ASSISTED FEATURE EXTRACTION**

ABSTRACT OF THE DISCLOSURE

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A method and apparatus are provided for producing a human voiced speech excitation function. The movement (position versus time) of a tracheal wall is determined using an electromagnetic sensor or equivalent, and the position is translated to pressure by determining the times of largest change in the movement waveform using a derivative, or differential, of the movement waveform. Pulses of various amplitude and width are placed at these times, and the result is shown to contain the same frequency information as the movement signal, although it can be described with considerably fewer parameters.

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